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## Description

Device for Cleaning and Rinsing Drinking Vessels

This invention relates to a device for cleaning and rinsing drinking vessels, comprising a pre-rinse pan with cleaning brushes which is open on the top, and next to it a post-rinse device which has a vertical conductor tube for water supply, said post-rinse device and said pre-rinse pan being connected to a single water connection, and comprising a base which is formed as a hollow body and which has arranged thereon said pre-rinse pan and said post-rinse device and which has in the interior thereof the water feeds for the pre-rinse pan and the post-rinse device.

In such known devices the base usually consists of an open moulded part made of metal or a plastic material, wherein said water connection for fresh water supply and the connection passages to the spray tubes of the post-rinse device and to the pre-rinse pan of the pre-rinse device are exposed. Accordingly, said connection passages are freely accessible for repair work, but this is not necessary as a rule in view of the low susceptance to trouble and the stability of such devices.

From GB 1 453 028 A a device for cleaning and rinsing drinking vessels as described in the preamble of claim 1 is known, comprising a base that is formed as a hollow body resting on suction legs, with a pre-rinse device and a post-rinse device being arranged side-by-side on the upper side of said base. On the base a lateral passage opening for a pipeline is provided for supplying water to several connecting sleeves on the underside of the pre-rinse device and the post-rinse device. In this device the base is provided on the bottom side thereof with a detachable bottom plate that extends over the entire underside of the device below the water connections for the pre-rinse device and for the post-rinse device and that has to be detached for maintenance

and cleaning and re-attached to the device. In this device sealing means are provided neither on the tube passage opening nor on the rim of the bottom plate, so that penetration of water and humidity into the hollow space of said base and accordingly to the connecting sleeve for the pre-rinse device and for the post-rinse device cannot be prevented. This may easily cause deposits of dirt and bacteria in the interior of the base and eventually also bad odor. This would by no means meet the hygiene requirements and regulations of today.

From CH 210 957 A there is also known a simple device for cleaning drinking vessels without any water stop valves and with a single cleaning pan on a base plate that includes a chamber filled with water and a connecting sleeve laterally leading into said chamber and serving for the connection of a water conduit. Said base plate has rubber suction cups on the bottom side thereof which serve as feet.

A device for cleaning drinking vessels comprising lower suction cups is further known from US 3 838 473 A.

It is a problem of the invention to improve a device for cleaning and rinsing drinking vessels as stated in the preamble of claim 1 to an extent that said device has on the bottom side of the base merely a single connecting sleeve for a water hose for fresh water supply, which connecting sleeve is easily accessible from outside, whereas the remaining connectors branching off to the spray tubes of the post-rinse device as well as to the pre-rinse pan of the pre-rinse device are encapsulated on the underside of the base against any contact with the water surrounding the device in the rinsing basins of public houses and are also protected against any mechanical damage or deposits of dirt.

According to the invention this problem is solved by said base being encapsulated in a watertight fashion and that on said base a sealed passage

opening for a connecting sleeve for securing a water hose for water supply is provided.

By the present invention the advantage is obtained that the connections for fresh water supply to the device and the water feeds for the distribution of the fresh water to the pre-rinse device and the post-rinse device can be mounted already at the manufacturers in such a way that they are fully protected both against mechanical damage and against dirt in the interior of the base which is formed as a hollow body. On the underside of the base there is only a single externally arranged connecting sleeve for securing a water hose for water supply to the cleaning and rinsing device, which can be easily detached for cleaning and as easily re-attached to the device.

A particular advantage also is that on the base there is only a single sealed passage opening for the connecting sleeve for fixing the water hose for water supply to the entire cleaning and rinsing device. Thereby it is made possible for the sealing cap together with the sleeve for fresh water supply to be readily exchanged without complicated installation work while maintaining the sealing function.

Furthermore, it is particularly advantageous that said connecting sleeve is configured as a sealing cap which at the same time serves as a water connection. Thanks to this configuration it is possible to reduce the number of individual parts that are required, resulting in low manufacturing costs as well as in a safe operation of the cleaning and rinsing device.

A particularly good, long-lasting and safe sealing against the penetration of rinsing water from the rinsing basin is additionally obtained by the fact that the sealing cap is sealed by means of O-rings both on a screw neck internally of the base and on the passage opening of the base against the outside.

Also, the water hose for fresh water supply can be very easily secured thanks to the fact that the connecting sleeve for fixing a plug-type coupling is directed laterally outwardly from the sealing cap.

Another advantage is obtained by the fact that the connecting sleeve together with the sealing cap can be pivoted in a wide range of at least 300° or even more about the axis of the sealing cap. This enables the connecting sleeve to be easily positioned for the shortest possible connection on the rinsing basin, namely irrespective of how the device is positioned relative to the water connection. This helps to save hose length.

To this end it is also particularly advantageous that the passage opening for the water connection is arranged on the underside of the base and that water is fed to the cleaning and rinsing device through an angled connecting sleeve.

Mounting of the cleaning and rinsing device in the basin is made still easier by the fact that the water hose can be secured to the connecting sleeve by means of a self-clamping plug-type coupler that can be simply slipped onto the connecting sleeve and is automatically maintained in its securing position.

Finally, the stable position of the cleaning and rinsing device in the basin is additionally increased by the fact that the base housing which is formed as a hollow body has downwardly directed supporting legs which are integrally formed with said hollow body on the rim thereof and which have suction cups fixed to them.

Preferred embodiments of the invention are schematically represented in the drawings in which it is shown by

Figure 1 a first embodiment of a device for cleaning and rinsing drinking vessels, in a side view which is partly broken open;

Figure 2 a modified second embodiment of such a rinsing device, in which both the pre-rinse device and the post-rinse device are each configured with a rinsing pan fixed to the base;

Figure 3 a partial bottom view of the first device in the direction of arrow III of Figure 1;

Figure 4 a vertical partial sectional view of this device along line IV-IV of Figure 1;

Figure 5 a partial sectional view corresponding to Figure 4 along line V-V of the device of Figure 2.

The device 1 for cleaning and rinsing drinking vessels as shown in Figure 1 has a base 3 made of a plastic material, which base is supported on three suction legs 2 and includes at least one substantially cylindrical pre-rinse pan 4 with cleaning brushes which is fixed to said base and which is open towards the top, and an adjacent post-rinse device 5 having a vertical conductor tube 6 (Figures 4 and 5) for feeding water which is fixed to said base 3, wherein said post-rinse device 5 and said pre-rinse pan 4 are connected to a common water connection 7 on the base 3 under said post-rinse device 5.

In both cleaning and rinsing devices 1 of Figure 1 and Figure 2 the base is formed as a watertight encapsulated hollow body and has in the region of the water connection 7 a sealed passage opening 10 (Figures 4 and 5) for a sealing cap 11 that is detachably mounted to the lower end of the conductor tube 6 leading to the post-rinse device 5. The latter has a connecting sleeve 12 on the underside of the base 3, which connecting sleeve 12 serves for fixing a plug-type coupler 13 (Figure 3) of a water hose 14 for feeding water to said cleaning and rinsing device.

The sealing cap 11 for the conductor tube 6 of the post-rinse device 5 is formed with an internal thread 15 (Figures 4 and 5) for its mounting to an external thread 16 on an extreme end of the conductor tube 6, and the connecting sleeve 12 for the plug-type coupler 13 is directed radially laterally from the sealing cap 11. In this way, said connecting sleeve 12 together with the sealing cap 11 can be pivoted by an angle of at least 300° or more about the common axis of the sealing cap 11 and the conductor tube 6 and hence easily positioned for the shortest possible distance to the water connection on the rinsing basin.

Furthermore, as shown by Figures 4 and 5, the sealing cap 11 is sealed by means of two O-rings 17, 18 both on the screw neck 19 of the conductor tube 6 and the passage opening 10 on the bottom 9 of the base housing 8.

Said base housing 8 which is formed as a watertight hollow body further includes preferably three supporting legs 24 that are integrally formed with said base housing on its rim and that are directed downwardly and have fixed to them suction cups 25. In the first embodiment (Figure 1) only a single supporting leg 24 with a suction cup 25 is provided next to the lower water connection 7, so that together with two additional supporting legs 24 under the pre-rinse pan 4 of the pre-rinse device said cleaning and rinsing device has a three-point support.

This three-point support can be provided also in the second embodiment (Figure 2) comprising two pans 4, 4a, namely a pre-rinse pan 4 and a post-rinse pan 4a in which the otherwise free-standing post-rinse device 5 is arranged. But it is also possible in this second embodiment to provide two supporting legs 24 with suction cups 25 for the post-rinse device under said second post-rinse pan 4a.

List of reference numbers

- 1      cleaning and rinsing device
- 2      suction legs
- 3      base
- 4      pre-rinse pan
- 4a     post-rinse pan
- 5      post-rinse device
- 6      conductor tube
- 7      water connection
- 8      base housing
- 9      bottom
- 10     passage opening
- 11     sealing cap
- 12     connecting sleeve
- 13     plug-type coupler
- 14     water hose
- 15     internal thread
- 16     external thread
- 17     O-ring
- 18     O-ring
- 19     screw neck
  
- 24     supporting legs
- 25     suction cups